

INFORMATION & INSTRUCTIONS

APPLICATION FOR BENEFICIAL WATER USE PERMIT

Form No. 600
and
Criteria Addendum A

INFORMATION AND INSTRUCTIONS
for
Application For Beneficial Water Use Permit
Form No. 600 and Criteria Addendum A

Use this form to apply for
groundwater appropriations in excess of 35 GPM or 10 Acre-Feet per year
and for all surface water appropriations.

Use one application for each source of supply or each development. Development is defined as a project having an identifiable point of diversion, place of use, flow rate and volume.

Water Use In Montana

Background

The State of Montana seeks to use its waters for the benefit of all its citizens. The finite supply mandates water development activity be undertaken in an orderly fashion and legal rights to the use of this limited resource be protected. Water rights in Montana are guided by the Prior Appropriation Doctrine, which means the first person to use water from a source established the first right, the second person could establish a right to the remaining water and so on; first in time, first in right. Consistent with the Doctrine, water must be used beneficially, it may not be wasted, and, more importantly, new users must not adversely affect the rights of existing appropriators.

The Water Use Act of 1973 created a water allocation process that assures adherence to the Prior Appropriation Doctrine. The Act

includes criteria to be used when deciding whether to allow additional water use.

Since the Water Use Act of 1973 was enacted, Montana has seen a growing demand for its limited water supply and on some sources; water is no longer available for further appropriation. As conditions changed, the statutory criteria governing the issuance of new water rights also underwent considerable refinement and change. Presently, the criteria demand far greater information from water right applicants concerning the potential impacts of their proposed water use. Also, new applicants must show stronger evidence that the rights of existing water users will not be adversely affected by additional demands on a water source. Simply stated, the competition for Montana's waters has led to a greater burden being placed on applicants to prove their case for a new appropriation of water.

See Appendix A for definitions.

Application for Beneficial Water Use Permit

Overview

The following describes the process the Department uses to determine compliance with the statutory criteria for issuance of a new water use permit. The process involves two steps. In the first step, the Department determines if an application contains adequate factual information required to make the application correct and complete. To judge an application correct and complete, it must contain all the information required on the application form. The Department will decide if the factual information needed to process the application has been presented.

If the information is found inadequate, the applicant will be given 30 to 90 days to submit the additional information. When the application is judged correct and complete, the Department will move ahead with the processing effort.

The second step involves assessing the applicant-submitted material and that of any objectors to determine if the preponderance or the majority of evidence supports permit issuance. This involves weighing all the evidence known to the Department and documenting whether the preponderance or majority of evidence supports permit issuance. This assessment occurs regardless of whether objections have been filed or a hearing held. In the end the Department decides whether to deny the requested permit, grant it as requested, or grant it with conditions needed to assure the permit criteria are met.

The estimated time frame for processing a correct and complete application is 210 days.

This time allows 30 days for public notice and 180 days to resolve objections to the application.

Correct and Complete Determination

Upon receiving a permit application, the Department will determine whether it conforms to the legal standard of being correct and complete. This means that *"the information required to be submitted conforms to the standard of substantial credible information and that all of the necessary parts of the form requiring the information have been filled in with the required information."* If the Department judges your application correct and complete it does not mean a permit will be issued. Rather, it insures the application contains *substantial credible information*, which, as defined by statute, means *"probable believable facts sufficient to support a reasonable legal theory upon which the department should proceed with the action requested by the person providing the information."*

Simply stated, a correct and complete application is one, which contains all of the information required by the application form, more specifically described under Application Requirements. Further, the required information contains the details needed to evaluate your application. To determine whether your application is correct and complete, the Department decides whether there is sufficient information given to begin the process of assessing compliance with the permit issuance criteria. The Department does not look at the degree to which you meet the

criteria. Your application can be accepted as correct and complete even if the information you submitted may not be sufficient to prove a permit should be issued. If you have questions about whether or not your application is correct and complete, feel free to call the Water Resources Regional office in your area.

If your application is correct and complete, the Department will begin the processing. If your application is not judged correct and complete, the Department will advise you of the problems and afford you the opportunity to respond.

If the information presented in your application is found inadequate, you will be given 30 to 90 days to submit the requested information. If the requested information is provided to the Department within 30 days, the priority date will remain the date the application was received. If the needed information is provided to the Department after the initial 30 days but before the 90-day limit, the priority date of your application will be changed to the date you file the corrections. If you don't correct your application within 90 days from being notified of the inadequacies, it will be terminated. If the required information is received as described above, the Department will proceed with evaluating your application.

Public Notice Determination

When your application is deemed correct and complete, the department will determine if public notice is needed. The Department may waive the public notice requirement if the department finds your proposed water use will not adversely affect the water rights of other persons. If the public notice requirement is waived, the Department will document its findings, develop

recommendations, and take final action on the application.

If your application is public noticed and objections *are not* received, the Department will document its findings, develop final recommendations, and take final action. If objections *are* received, Department staff will work with you and the objectors to resolve the concerns. If this is accomplished, the Department will amend its initial assessment of your application to reflect any new insights and information gained through the objection process. The Department will then prepare its findings, develop final recommendations, and take action on your application.

If objections cannot be resolved, a contested case hearing may be necessary. A hearing examiner will listen to the information presented by all parties. The initial staff analysis on these applications may serve as input in the hearing. The examiner will make findings based on the information presented and will propose a decision. Parties will have an opportunity to provide comments to the proposal. Ultimately a final decision will be made.

Permit Issuance Determination

The final step of the permit application process is to determine whether you have proven each of the permit criteria by a preponderance of evidence. This begins when your application is judged correct and complete. It involves assessing the information contained in your application, as well as, any supplemental information. The Department may collect and analyze independent information to determine whether the criteria for permit issuance have been met. The analysis may include consideration of additional clarifying information or data requested from you.

Once the information has been analyzed, the Department will make a preliminary analysis regarding compliance with each of the criteria for permit issuance.

Application Preparation - General

Obtaining information needed to make an application correct and complete requires considerable pre-planning on your part. You must present information needed to prove the case for permit issuance.

Although a substantial amount of information and analysis is needed in an application, you may later need to produce additional information in order to overcome evidence presented by an objector. This is because Montana law requires an applicant prove the case for permit issuance by a preponderance of the evidence. In the end, you must provide sufficient **factual** information to convince the Department that, even in the face of objections, your application for a water use permit should be issued. Applications, which lack detail and substance run the risk of falling short of proving the case for, permit issuance.

The Department may direct an applicant to acceptable sources of information as well as types of evidence, which may be useful to meet the burden of proving compliance with the permit issuance criteria. The Department may also assist an applicant in understanding basic information such as legal land descriptions, calculations of standard water conversions, or water requirements. However, ***the Department won't collect or analyze information and data for the applicant or fill out the application.***

To obtain a water use permit, prepare a permit application. Provide information on the Application for Beneficial Water Use Permit, Form 600, which describes the specifics of the proposed water use. Add factual material to the application in the form of supporting documentation. This information will be used to assess compliance with the statutory criteria for permit issuance.

Reference the sources of information presented in the application, as well as, the names of persons involved in the application preparation. Use standard data collection procedures and analytical methods when collecting new information. Fully explain the methodology used in collecting new information and the basis for any assumptions used. In the interest of reducing the time and expense of preparing an application, use information currently available. This includes studies, reports, and data previously collected by the Department, as well as, by former applicants and objectors. Other sources of potential information are the Montana State Library water data system; U.S. Geological Survey; Natural Resources Conservation Service; U.S. Forest Service; water resource consultants; water well contractors or drillers; the Montana Bureau of Mines and Geology and other colleges and universities.

When you have completed the application, submit it to the local regional office listed on the back of the application form. Be sure to send the filing fee with the application.

<p style="text-align: center;">Instructions for Application for Beneficial Water Use Permit</p>
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Application Preparation - Item by Item

1. **Name of Applicant:** Enter the complete name of the person(s) to be listed as the water right owner(s), their mailing address, home phone, daytime phone number, and e-mail address.
2. **Source of Water Supply:** Source of water supply refers to the stream, lake, well or developed spring from which you want to use water. Check the box for the source of water you are applying to use. Only one source can be checked.

Well: Enter the estimated depth of the well.

Developed Spring: Enter the name of the developed spring, if any, otherwise leave blank.

Lake: Enter the lake name and the out-flowing stream from the lake

Streams: Enter the stream name.

Unnamed streams: Check unnamed and list the next named source or stream it flows into.

3. **Point of Diversion:** Point of diversion refers to the point where water will be taken from the source for your use. It is the actual location on the source, where a headgate, pump, or other diversion will be located. List all the point(s) of diversion applicable to this application. If there are multiple points, reference the point of diversion number to the diversion shown on the map required in ITEM 11. Describe the point of diversion to the nearest 10 acres, the 1/4, 1/4, 1/4 section, Section, Township, Range, and County. Appendix D illustrates a section breakdown. Do not list secondary diversions, which occur after the water is diverted from the source. For example, if you divert water from a ditch with a pump, don't list the pump location; list the point where the ditch diverts water from the source. The pump is a *secondary* means of diversion.

Subdivisions: List the location by lot and block or tract number, subdivision name and the legal description including 1/4, 1/4, 1/4 section, Section, Township, Range, and County.

Government Lots: List the government lot and the 1/4 section, Section, Township, Range, and County.

Dam or Pit: List the 1/4, 1/4, 1/4 section as the point where the actual dam or pit will cross the source.

Off-Stream Reservoirs: List the 1/4, 1/4, 1/4 section as the point where water is diverted from the source to be taken to the off-stream reservoir.

4. **Means of Diversion:** Check the block, which best describes how the water will be removed from the source. Check Dam or Pit if a storage reservoir will be created on the source. Do not list secondary means of diversion. Secondary means of diversion are ones, which are used

after the water is diverted from the source of supply. For example, if a dam and reservoir is the primary means of diversion then water is pumped from the reservoir, don't list the pump as a diversion means.

Pipelines: Enter the size of the pipe to be used.

Pumps: Enter the rated capacity of the pump in gallons per minute (GPM) or cubic feet per second (CFS). Also enter the horsepower rating of the pump and approximately how far the water will be lifted from the source to the place of use.

Describe your plans for measuring your water. If your project does not include water measurement, enter "none." Water measurement is a necessary component of efficient water management. The Department's policy is to promote, encourage and educate water users about water measurement. The Department may require water measurement where measurement is necessary to establish the criteria. Water measurements are beneficial to establish, verify, and protect your rights in disputes among water users.

5. **Reservoir:** Check the box or box (es) that pertain to your development. If your project is for a reservoir or pit, this section must be completed. Check the box (es) if any of the statements will be answered yes. Refer to Appendix E for conversion rates.

Proposed New/Existing Reservoir: Check this box if constructing a new reservoir or if you do not have a water right on your existing reservoir. List the proposed capacity of the new or existing reservoir. Enter the reservoir name, if any.

Enlargement of Existing Reservoir: List the existing capacity in acre-feet and the existing water right(s) on the reservoir. The point of diversion in ITEM 3 will probably be the same as shown on your existing water right. List the proposed capacity of the enlarged reservoir. Enter the reservoir name, if any.

Reservoir located away from the source: The reservoir is not directly located on the source from which you are diverting water. Enter the location of the largest portion of the impoundment structure.

Reservoir located on the source: The reservoir is located directly on the source. Enter the location of the largest portion of the impoundment structure.

Pit: If your reservoir will be built with 4:1 sides and 3:1 ends, complete the calculations for PIT. Round the figure to the nearest tenth.

Dam: If your reservoir is more triangular shaped or bowl shaped, complete the calculations for DAM. Round the figure to the nearest tenth.

6. **Period of Appropriation:** The period of appropriation is the period during the year when water will be diverted, impounded or removed from the source. List the first month and day and the last month and day of the year that water will be stored or removed from the source.

7. **Proposed Beneficial Use:** The beneficial use refers to the purpose for which you intend to use water. Multiple purposes can be checked if water will be supplied from the same point of diversion listed in ITEM 3.

Domestic: Identify the number of homes to be supplied.

Lawn & Garden: Complete item 8.

Stock: Identify the number and type of livestock, which will be watered. Count weaned animals individually.

Irrigation: Check the box identifying the type of irrigation system you will be using.

Crops to be grown: If the application is for irrigation, enter the type of crop to be grown.

Existing Irrigation: If the water you are applying for will be used on land, which is already irrigated, identify the water rights applicable to the existing irrigation.

Other: Refer to Appendix E for other types of uses.

8. **Place of Use:** The place of use refers to where the water will be used. List the county where the place of use will occur. Also, list the subdivision name, if applicable. Refer to Appendix D.

Irrigation/Lawn & Garden: List number of acres and the legal description for each parcel. Describe the parcel to the nearest 1/4 1/4 section and the Section, Township, and Range. If the place of use is located in a subdivision or a government lot, list the lot and/or block numbers in addition to the above legal description.

Circle **N** if the acres are new irrigation or **S** if the acres are already irrigated under another water right. Total the acres and enter the number in TOTAL ACRES.

Non-Irrigation: Indicate the purpose of use and the land description of the place of use. If the place of use is the same as the point of diversion listed in ITEM 3, check the box to the right.

Ponds and reservoirs: List the location as the place where the impounded water will cover the land.

Domestic: List the location of the home(s) where water will be used.

Road Construction: Enter the point at the start of the road construction and the point at the end of construction. Note that the place of use will be along Highway or County Road number between the two listed points.

9. **Flow Rate, Volume, Purpose of Use, and Period of Use:** This area is composed of four parts: The flow rate; volume (acre-feet) you will use; the purpose for which the water will be used; and the period of time water will be used. The flow rate and volume must be identified for each purpose checked in ITEM 7. Round the flow rate and volume figures to the nearest tenth. You must show your calculations and justify the flow rate and volume you are requesting in ITEM 4 of the Criteria Addendum.

Flow Rate: This refers to the rate at which water will be taken from the source. Flow rate can be expressed in GPM or CFS. Flow rates must be reasonable for the purpose and the size of the proposed diversion. Enter the flow rate for which you are applying. If your flow rate is less than one CFS, identify the flow rate in GPM. (Conversion: $\text{CFS} \times 448.8 = \text{GPM}$)

On-stream and off-stream flow-through fishpond applications must identify the flow rate required to sustain the fish.

No flow rate is required for: On-stream stockwater, wildlife, or waterfowl ponds; water spreading systems; or if your application is only to increase the volume of an existing water right. Also, the rate irrigation or other uses of water is diverted from a storage reservoir does not require a flow rate. It can, however, be listed in the ITEM 12, REMARKS.

Volume: This refers to the total amount of water in acre-feet that will be used for each purpose during the period of use. The volume of water must be reasonable for the purpose and the operation of the use. Also, you must be able to achieve the volume during the requested period of use. See Appendix E for standard domestic, lawn, garden and shelterbelt irrigation, and stock volumes. The volume for irrigation can be figured two ways. The NRCS Irrigation Guide of Montana can be used or volume calculations can be made based on the system design and operation.

No volume is required for: Applications only to increase the flow rate of an existing water right.

Purpose: List each purpose as shown in ITEM 7.

Period of Use: This refers to the actual time period water will be used for each purpose. List the period of use as the month and day of the earliest date water will be used and the month and day of the latest date water will be used for each purpose.

Total Amount Requested: List the total flow rate and volume of water you are requesting to use. For example, if you are using a 40 gpm pump for stock, domestic, and lawn & garden use, enter only 40 gpm as the total flow rate requested. Add the volume of each purpose and enter as the total volume.

10. **Proposed Completion Period:** The completion date is the time by which the diversion works will be operating and the permitted water used to the fullest extent planned. With this in mind, list how many years you will need to complete the project after the permit is received.

Also, on a separate sheet you need to provide a general project plan and time line for: purchasing and installing equipment; your anticipated completion date; and a description of when and how much water will be put to beneficial use.

11. **Location Map: A map must be attached.** The map should be at a scale of at least 1:24,000 (2.64 inches per mile). A FSA aerial photo or USGS topographic map may be used. The map must identify the section corners, section numbers, township and range numbers, the point of diversion, the place of use, and the means of conveyance. Label multiple point(s) of diversion on the map with the diversion number from ITEM 3. If in a subdivision, also include the subdivision plat map.
12. **Remarks:** Add information, which will help to further explain the information listed in ITEMS 1-11.
13. **Contact Person:** If the applicant is not an individual or if communications are to be conducted through an individual other than the applicant, provide a name, address, phone number, and e-mail address.
14. **Signatures:** The application affirmation must be signed by one of the owners listed in ITEM 1 or by a representative who has power-of-attorney. If the person who holds power-of-attorney signs the form, a copy of the document transferring power-of-attorney must be submitted with the application

You must have possessory interest in the property where the water will be put to beneficial use or written consent of the person having the possessory interest. If the proposed use involves a groundwater appropriation, you must also have exclusive rights in the groundwater development works. To meet this requirement, you must sign and have the statement on the Form 600 notarized affirming you have possessory interest in the property involved.

If the Department has concerns about possessory interest based on the information submitted, you may be required to submit a legible copy of a deed or contract for deed, lease agreement, easement or other instrument which documents possessory interest. The documentation must address all lands included in the proposed place of use.

You are responsible for obtaining all easements or rights-of-way needed to develop the proposed project. If state or federal lands are involved and the *place of use is on public land*, the water right is normally in the name of the public agency involved. However, with written approval of the public agency, the water right can be granted in the name of a private entity. The water right can be in the name of both a public agency and a private entity if the application form is signed by the public agency involved. If the *point of diversion is on public land but the place of use is in private ownership*, the water right is normally held by the private party involved. With written approval of the private party, the water right can be in the name of the public agency owning the land where the point of diversion is located. Or, the water right could be in the name of both entities if the application form is signed by the private party. Regardless of water right ownership, the private entity must receive all easements needed to develop the point of diversion on public land. The department does not need copies of easements to issue a water use permit.

<p style="text-align: center;">Instructions for Criteria Addendum Appropriations Less Than 5.5 CFS AND 4,000 AC-FT Permit Criteria - § 85-2-311(1), MCA</p>
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General Information

In addition to the application form, the permit criteria must be addressed. The information you submit to meet the criteria must conform to the legal standard of being substantial credible information. The applicant must prove by a preponderance of evidence that the following criteria are met:

1. There is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate;
2. Water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested;
3. The water rights of a prior appropriator under an existing water right, a certificate, a permit, or state water reservation will not be adversely affected;
4. The proposed means of diversion, construction, and operation of the appropriation works are adequate;
5. The proposed use of water is a beneficial use; and
6. The applicant has possessory interest or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

In addition to these criteria, an applicant may be required to show the following if a valid objection related to water quality impairment is received:

1. The water quality of a prior appropriator will not be adversely affected;
2. The proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to § 75-5-301(1), MCA; and
3. The ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with § 75-5-4, MCA, will not be adversely affected.

The following discussion focuses on the application information needed to assess compliance with each of the first six criteria listed above.

Although an overview of the water quality criteria is also presented, information related to those criteria is not required at the time an application is submitted. It is only necessary if a valid objection is filed which asserts that water quality may be diminished by a proposed appropriation.

Applications for appropriations of 4,000 or more acre-feet of water per year and having a diversion rate of 5.5 or more cubic feet of water per second must present additional information and meet the higher evidentiary proof standard of clear and convincing evidence (See § 85-2-311(3), MCA). Applicants seeking appropriations of this size must consult with the Department regarding the form and content of the applications involved.

Finally, if your permit application involves a source affected by a surface or ground water basin closure you should talk with the Department regarding the specific content of your permit application.

Specific Instructions

1. There is Water Physically Available at the Proposed Point of Diversion in the Amount Requested.

Physical Water Availability

To determine if water is physically available at the proposed point of diversion in the amount you request, you must collect and analyze factual hydrologic evidence. If existing water resource data is available, you may be able to use that information. More often, however, data is inadequate or non-existent. In those instances, stream flow evaluations may be obtained through statistical techniques or estimation methodologies developed for various river basins of Montana. Sometimes, you may need to collect site-specific information. In some instances, you may need to seek professional assistance in obtaining the actual measurements needed to demonstrate the availability of water.

If you base physical water availability on an estimation technique, you must account for any water uses upstream from your proposed point of diversion. In other words, you will have to reduce the estimated flow by the amount of water legally used upstream.

The specific hydrologic information presented in your application is your choice. The level of detail will vary depending on the size of your appropriation and the water availability in the source of supply. However, if the information does not meet the legal standard of being substantial credible information, your application will not be judged correct and complete. You bear the burden of proving your case in the face of evidence presented by an objector or information available to the Department. Your application must contain the best possible supporting evidence. The factual hydrologic evidence that may be used in an application and the means of obtaining that evidence are discussed below. The format to present this information is shown as Appendix B. Sources of surface water data, as well as, methodologies for estimating water flow and volume are listed on Appendix C. Copies of the reports are on file with the Water Resources Regional Offices.

Surface Water Diversions

Applications involving surface water diversions must include water flow information, which adequately depicts physical water availability in the source of supply. Usually, the following information must be submitted with your application. However, depending on the characteristics of your water source and the amount of water already used from the source, you may need to supply additional information. Contact your local Water Resources Regional Office for assistance.

Your application must include evidence showing typical stream flows during the proposed period of appropriation. You must also include a written narrative explaining why the measurements represent typical flow conditions.

Stream flows can be obtained using various methods. Following are the most widely used methods.

- Flow measurements from nearby U.S.G.S. stream gauging stations;
- Stream flow measurements as close as possible to your intended point of diversion. Ideally, these measurements would be taken directly upstream from your proposed point of diversion; or
- Various hydrologic modeling or statistical estimation techniques, as well as, such estimation methodologies as the Orsborn method, Manning's equation, mean annual runoff maps developed by the Natural Resources Conservation Service, and drainage area information.

As an example, you could take stream channel dimensions upstream from the proposed point of diversion. Take measurements of the typical channel width and the channel at bank full width. It is best to take the measurements where the channel is straight and flow is not hindered by rocks, large pools, or instream debris. With these channel measurements it is then possible to estimate stream flow using a methodology developed by the U.S. Geological Survey, Appendix B.

If you base physical water availability on an estimation technique, you must account for any water uses upstream from your proposed point of diversion. In other words, you will have to reduce the estimated flow by the amount of water legally used upstream.

- You may submit photographs or affidavits as additional proof of water being available in the source of supply. However, the photographs must be signed, dated, and explain what is being shown in the photo. Affidavits must be prepared by a person other than yourself, must state why the individual is familiar with water availability on the source and must be signed, dated, and notarized.

Surface Water Storage

Applications involving storage of surface water in a reservoir or pond must include information, which shows the amount of water in the source of supply that is available for storage. You must submit hydrologic evidence, which confirms the amount of water you need, is available during the proposed period of diversion. Data must include the volume of water you propose to store and the average annual yield of the upstream drainage area.

If your application is for a storage reservoir on a stream, which flows year-round you, must also include stream flow data. Stream flows can be obtained using various methods. You must explain why the measurements represent typical flow conditions. The following methods can be used to obtain stream flow data.

- Flow measurements from nearby U.S.G.S. stream gauging stations;
- Inflow measurements as close as possible to the proposed dam structure – ideally, directly upstream.
- Various hydrologic modeling or statistical estimation techniques, as well as, such estimation methodologies as the Orsborn method, Manning's equation, mean annual runoff maps developed by the Natural Resources Conservation Service, and drainage area information.

As an example, you could take stream channel dimensions upstream from the proposed point of diversion. Take measurements of the typical channel width and the channel at bank full width. It is best to take the measurements where the channel is straight and flow is not hindered by rocks, large pools, or instream debris. With these channel measurements it is then possible to estimate stream flow using a methodology developed by the U.S. Geological Survey, Appendix B.

If you base physical water availability on an estimation technique, you must account for any water uses upstream from your proposed point of diversion. In other words, you will have to reduce the estimated flow by the amount of water legally used upstream.

- You may submit photographs or affidavits as additional proof of water being available in the source of supply. However, the photographs must be signed, dated, and explain what is being shown in the photo. Affidavits must be prepared by a person other than yourself, must state why the individual is familiar with water availability on the source and must be signed, dated, and notarized.

Ground Water Diversions

Applications for ground water wells or developed springs must include factual information demonstrating that water is available from the ground water source. The method you use to obtain the information will depend on the size of your project and water availability in the source of supply. You must show the amount of water you request is physically available at the proposed point of diversion during the period you intend to divert the water. The Department recommends the needed information be collected and analyzed by a person knowledgeable in the principles of hydrogeology.

Wells: If your application is similar in size to existing wells in the immediate area you may use existing well log data to show water availability. If well log data is unavailable or if your well will be larger than those in the immediate vicinity, or if water availability is a known problem, you may drill a well for testing purposes. Test wells are used to conduct aquifer tests, water quality tests, and water level monitoring, and may be drilled without filing a permit application. The test must be consistent with Department well test guidelines. As an alternative to drilling a test well, geohydrologic research findings may be used to demonstrate water availability. Regardless of the approach used, you must explain, in writing, how the collected data shows water is available in the source of supply.

Springs: If your application is for a groundwater spring development, a one time measurement may be adequate. However, you must describe how the measured flow represents the typical flow conditions for the source.

If the flow does not represent the typical flow conditions, provide additional measurements or further explanation.

2. Water Can Reasonably be Considered Legally Available During the Period in Which the Applicant Seeks to Appropriate, in the Amount Requested.

Legal Water Demands

Legal availability is determined using an analysis involving the following factors:

1. identification of physical availability;
2. identification of existing legal water use on the source of supply throughout the area of potential impact; and
3. an analysis of one and two above, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the source.

Once you determine water is physically available for your use, you must determine existing legal demands on the source. You must prepare a listing of the existing water rights which may be adversely affected by your proposed new water use. The listing must also include all potentially affected state water reservations and unperfected permits. Reservations are rights which are granted to federal and state entities. These are legal water rights to be put to beneficial use at some future point. If your use is for surface water, you should include all rights at least three

miles downstream from your proposed point of diversion. If your application is to use ground water, the list should include existing rights within one-half mile of your proposed well or developed spring. If your analysis of physical water availability shows your proposed use has a larger area of possible impact, the listing of existing water rights must be expanded. If you can provide evidence showing your proposed new use will have a lesser area of effect, the water right listing may be reduced. Unless otherwise approved by the Department, your list must include the following information for each of the potentially affected water rights:

- | | |
|-----------------------|-------------------------|
| a. water right number | d. period of use |
| b. source name | e. point of diversion |
| c. purpose of use | f. flow rate and volume |

As an option, you may use Form WR-REQ which is enclosed with Application for Beneficial Water Use Permit, Form 600, to develop the water right listing. If you want the Department to generate the list from the Water Rights database, complete the WR-REQ form and mail it to the address shown on the form along with the \$10.00 fee. You will receive a listing with the above information provided. The printout you receive is prepared for complete sections of land. For example, all of Section 31, Twp. 32N, Rge. 16E will be displayed. For various reasons, some of the listed water rights may not be affected by your proposed use. For instance, some rights may be on another source or upstream from your proposed diversion or outside a ½ mile radius of your well. Eliminate the rights which do not apply to your project and adjust the total flow rate and volume figures accordingly.

In some cases, the information provided will not be complete and you will have to do some expanded research of individual water rights. The Department will not do research for you.

If you choose to develop your own listing, you will have to use Water Right microfiche and paper indexes. You can research the records located in the Water Resources Regional Office or in the Helena Central Office. Information may also be gathered on the Water Rights web site at <http://www.dnrc.state.mt.us/wrd/home.htm>

Analysis of Water Availability & Filed Water Rights

To determine if water is reasonably legally available for your use, analyze the evidence collected on physical water availability and existing water rights. In a written narrative, compare the physical water supply at the proposed point of diversion with the existing legal demands on the supply. In making the analysis, remember your physical water availability determinations were based on actual stream measurements which probably reflect depletions from upstream water use. Therefore, your analysis between physical water availability and existing legal demands will generally focus on downstream uses. The exception would be legal upstream water use which began after you took the stream measurements.

If you based physical water availability on an estimation technique, you need to reduce the estimated figure by the amount of legal upstream water uses.

Water is reasonably legally available if physical water supply exceeds existing legal use. If your analysis shows the amount you need exceeds the amount of available water, you must provide further information. You may have to take additional stream flow measurements to better define when water is available. Or, you may need to further analyze the water rights and water use of existing appropriators to show their actual water use is less than they claimed. The results may show water is available for your use. Analysis of return flows and seasonal use patterns of senior appropriators might also show the availability of water for your use.

3. The Water Rights of a Prior Appropriator Will Not be Adversely Affected.

You must provide factual information showing your proposed new use will not adversely affect the water rights of existing appropriators. Adverse effect is determined based on the consideration of the applicant's plan to demonstrate that the applicant's use of water will be controlled so the water right of senior water users will be satisfied. You must submit evidence showing your use can be properly regulated during times of water shortage, so senior water right users will be satisfied. Include specific conditions you are willing to accept to eliminate or mitigate potential adverse effects to senior water right holders. For example, one condition might require installing a bypass drainage device in a water storage facility to assure water could pass to senior downstream water users.

4. The Proposed Means of Diversion, Construction, and Operation of the Appropriation Works are Adequate.

Your water diversion works must conform to accepted design, construction, and operation practices. They must not waste water and must assure the permit conditions needed to protect the rights of prior appropriators can be implemented. Therefore, you must submit the following:

1. Preliminary design plans and specifications for the facilities you plan to use to divert water from the source of supply and the equipment you propose to use to put the water to beneficial use. You must provide a written narrative describing the construction and operation of your diversion works from the point of diversion to the place of use. The information will vary based on the complexity of your proposed project. As projects become larger in size and expense, the plans and specifications for the project must contain greater detail and professional engineering input. Be sure to present sufficient detail so the Department is able to understand the design capacity, expected overall efficiency, and potential impacts of system construction and operation.
2. Information on system design, construction, or operation features which are intended to reduce or eliminate adverse impacts on other water users. Such features might include drainage systems, measuring devices, bypass works in water storage facilities, or ditch lining.

5. The Proposed Use of Water is a Beneficial Use.
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To show the proposed water use is a beneficial use, you must be able to justify how the water will be used as well as the quantity of water needed. You must submit the following:

1. A justification for the requested rate and/or volume of water which must include calculations showing how you determined the amounts you need. Also include information to show the amounts you requested are reasonable.
2. A cost benefit analysis is not needed, however, you must describe any other benefits your water use will provide.

Water Quality Information

The water quality criteria in the water right permitting process are defined in § 85-2-311 (1)(f), (1)(g), (1)(h), and (2), MCA. You are not required to submit information needed to prove these criteria unless a valid objection is filed. Objectors have the initial responsibility to present substantial credible information establishing, to the satisfaction of the Department, that applicable water quality criteria may not be met. If a valid objection is received, you will be required to submit substantial credible information addressing the water quality concerns raised by the objector. Ultimately, you must prove the water quality criteria by a preponderance of evidence. The three areas where you may receive objections relating to water quality include:

1. The proposed appropriation adversely affects the water quality of a prior appropriator.

If a person is concerned that your new use will adversely affect the quality of water used by a senior water right holder, the person must file an objection containing substantial credible information showing how your use will adversely affect the quality of water. In response, you must present evidence showing the design, construction, and operation of the proposed project will not alter the physical, biological, or chemical properties of a water source in a manner that adversely affects the quality of water used by prior appropriators.

2. The proposed appropriation will not be substantially in accordance with the water quality classification for the source of supply as set by the Montana Department of Environmental Quality.

Only the Department of Environmental Quality or an established water quality district may object to an application based on the potential effect to the water quality classification of a stream. Such objections must present substantial credible information showing you may not be able to prove the proposed new use will be substantially in accordance with the classification for the source of supply. When responding to such objections, you must prove that the operation of the proposed project will be substantially in accordance with the existing water quality classification for the source of supply.

3. The proposed appropriation adversely affects the ability of discharge permit holders to meet the terms of their permits.

A person may object to your application if the proposed new use might adversely affect holders of discharge permits issued by the Department of Environmental Quality and their ability to comply with the terms of such permits. An objection to your new use of water must present information showing you may not be able to prove your new use will not adversely affect the ability of a discharge permit holder to satisfy the effluent limitations of their permit. When answering such objections, you must prove that the new water use will not adversely affect the ability of a discharge permit holder to satisfy the conditions of their permit.

APPENDIX A - Definitions

Unless the context requires otherwise, the following definitions apply:

1. *"Burden of proof"* means the responsibility to produce evidence to support a fact or facts in dispute. It embodies two concepts. First, the burden of production is the duty to produce evidence as a hearing progresses. Second, the burden of persuasion is the applicant's process of proving to the Department by a preponderance of evidence that the criteria for permit issuance under § 85-2-311, MCA, are met. Where an application involves the appropriation of 4,000 or more acre-feet of water a year and 5.5 or more cubic feet of water per second, this proof must be shown by clear and convincing evidence.

a. The burden of production shifts back and forth between the applicant and the objector. First, the applicant bears the duty of presenting evidence to show the application meets the statutory criteria. The burden then shifts to the objector to present evidence to refute or overcome the evidence presented by the applicant. Finally, the burden returns to the applicant to present additional evidence to rebut the evidence presented by the objector.

b. The burden of persuasion never shifts. The applicant always has the responsibility to prove to the Department by a preponderance of the evidence that the criteria under § 85-2-311, MCA, are met. The objector does not have the burden or the responsibility to persuade the Department that the applicant has not met the criteria, but can produce evidence to cast doubt on the applicant's ability to prove the criteria are met.

2. *"Correct and complete"* means that the information required to be submitted conforms to the standard of substantial credible information and that all the necessary parts of the application or form requiring information have been filled in with the required information, and the proper fee submitted.

3. *"Developed spring"* means a groundwater development when there is some physical alteration of the spring's natural state at the point of discharge from the ground including but not limited to excavation and/or the installation of a cement encasement, rock cribbing, or another structure.

4. *"Ground water"* means any water that is beneath the ground surface. § 85-2-102(9) For Bitterroot/Clark Fork see § 85-2-340 and § 85-2-343.

5. *"Mean monthly stream flow"* means the average rate of flow for any given month during the proposed period of appropriation. Mean monthly flow is based on the available period of record and is expressed in gallons per minute (gpm) or cubic feet per second (cfs).

6. *"Preponderance of evidence"* means the quality of evidence that, when evaluated as a whole, has greater weight or is more convincing than opposing evidence. The preponderance of evidence is not based on the number of witnesses presented nor the amount of evidence offered. It is the standard of evidence used in most civil cases.

7. *"Substantial credible information"* means probable believable facts sufficient to support a reasonable legal theory upon which the department should proceed with the action requested by the person providing the information.

APPENDIX B

Format for Submitting Physical Water Availability Information

Surface Water Applications:

1. The name, address, and telephone number of the person or persons responsible for collecting and analyzing the physical water availability information, if different from the applicant.
2. A map showing the point of diversion and the location of sites where flow measurements were obtained. The map should be at least 1:24,000 (2.64 inches per mile) and include a north arrow.
3. A brief report which presents the analysis of flow data and includes the flow data used; the time, date, location, and duration of the measurements; the dates to which the data apply; assumptions used; any calculations; and the conclusions. Flow measurements must be expressed in cubic feet per second (CFS) or gallons per minute (GPM).
4. If original water resource data was collected, the type of measuring device should be stated. It is helpful to specify the make and model of the equipment used, as well as, its sensitivity or resolution.
5. If flow measurements were estimated, specify the methodology and calculations used.
6. If existing data was used, specify the source of the information and the location of the measurement sites.

Groundwater Applications:

1. The name, address, and telephone number of the person or persons responsible for collecting and analyzing the physical water availability information, if different from the applicant.
2. If flow data was obtained from a test well, the analysis should be consistent with the Department guidelines governing the development and testing of such wells.
3. If flow measurements were estimated, specify the methodology and calculations used.
4. If existing data was used, specify the source of the information.

APPENDIX C

Sources of Methods for Estimating Streamflow and Reports on Streamflow Estimates and Characteristics.

Methods for Estimating Streamflow:

1. Methods for Estimating Monthly Streamflow Characteristics at Ungaged Sites in Western Montana. U.S. Geological Survey. Water-Supply Paper 2365 (1990).
2. A Method for Estimating Mean and Low Flows of Streams in National Forests in Montana. U.S. Geological Survey. Water-Resources Investigations Report 85-4071 (1985).
3. A Method for Estimating Mean Annual Runoff of Ungaged Streams Based on Basin Characteristics in Central and Eastern Montana. U.S. Geological Survey. Water-Resources Investigations Report 84-4143 (1984).

Reports on Estimates of Peak and Monthly Streamflow:

1. Mean Annual Runoff and Peak Flow Estimates Based on Channel Geometry of Streams in Northeastern and Western Montana. U.S. Geological Survey. Water-Resources Investigations Report 83-4046 (1983).
2. Estimates of Monthly Streamflow Characteristics at Selected Sites in the Upper Missouri River Basin, Montana, Base Period Water Years 1937-86. U.S. Geological Survey. Water-Resources Investigations Report 89-4082 (1986).
3. Estimates of Mean Monthly Streamflow for Selected Sites in the Musselshell River Basin, Montana, Base Period Water Years 1937-86. U.S. Geological Survey. Water-Resources Investigations Report 89-4165 (1989).
4. Estimated Monthly Percentile Discharges at Ungaged Sites in the Upper Yellowstone River Basin in Montana. U.S. Geological Survey. Water-Resources Investigations Report 86-4009 (1986.)
5. Estimates of Monthly Streamflow Characteristics and Dominant Discharge Hydrographs for Selected Sites in the Lower Missouri and Little Missouri River Basins in Montana. U. S. Geological Survey. Water-Resources Investigations Report 94-4098 (1994).
6. Mean Annual Runoff and Peak Flow Estimates Based on Channel Geometry of Streams in Southeastern Montana. U.S. Geological Survey. Water-Resources Investigations 82-4092 (1983).

APPENDIX C (cont.)

Streamflow Characteristics:

1. Streamflow Characteristics of Mountain Streams in Western Montana. U.S. Geological Survey. Water-Supply Paper 2260 (1985).
2. Streamflow Characteristics of the Upper Columbia River Basin, Montana, through 1979. U.S. Geological Survey. Water-Resources Investigations 81-82 (1982).
3. Streamflow Characteristics of the Hudson Bay and Upper Missouri River Basins, Montana, through 1979. U.S. Geological Survey. Water-Resources Investigations 81-32 (1981).
4. Streamflow Characteristics of Small Tributaries of Rock Creek, Milk River Basin, Montana, Base Period Water Years 1983-87. U.S. Geological Survey. Water-Resources Investigations Report 89-4206 (1990).
5. Streamflow Characteristics of the Yellowstone River Basin, Montana, through September 1982. U.S. Geological Survey. Water-Resources Investigations Report 84-4063 (1984).

APPENDIX D Land Descriptions

NW1/4NW1/4	NE1/4NW1/4		NE1/4 160 Acres
SW1/4NW1/4	SE1/4NW1/4 40 Acres		
	10 Acres		SE1/4
		<div></div>	
	SE 1/4 NE1/4SW1/4		

EXAMPLE: Section 1, Township 3 North, Range 6 West

To describe any point in a 640 acre section, the section is first divided into quarters of 160 acres. A quarter is described as being either the northeast (NE), northwest (NW), southeast (SE), or southwest (SW) quarter of the section. For a more precise location, the quarters can be divided in a like manner into 40 acre quarters. To further describe a location, the 40-acre quarters can be similarly divided into 10-acre quarters.

The legal description of a parcel of land, when written, always begins with the smallest division and then proceeds to the largest division. For example, the smallest parcel shown in the illustration would be legally described as: "The SE1/4 NE1/4 SW1/4 of Section 1, T03N, R06W". To make the land description easier to understand, say "of the" between the quarter sections. ie: the SE1/4 *of the* SE1/4 *of the* SE1/4.

To describe a location that covers a large area, such as a lake, the section may be divided in half and described as either the N1/2, S1/2, W1/2, or E1/2 of the section. A larger location may be described by the section number.

APPENDIX E

Form No. 615 R6/00

Water Conversion Table

GPM = Gallons per minute	CFS = Cubic feet per second	AF = Acre-feet
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1 Cubic foot of water equals	7.48	Gallons
1 AF of water equals	1 foot of water on 1 acre	
.....	325,851	Gallons
.....	43,560	Cubic feet
1 CFS equals	448.8	GPM
.....	1.98	AF per day
.....	40	Miner's inches
1 GPM equals.....	1,440	Gallons per 24 hour day
.....	1.61	AF per year
1 Surface Acre equals	Size of area in square feet ÷ 43,560	

Quick Conversions

MI X 11.22 = GPM
MI ÷ 40 = CFS
MI X .0495 = AF/DAY

CFS X 40 = MI
CFS X 448.8 = GPM
CFS X 1.98 = AF/DAY

GPM ÷ 11.22 = MI
GPM ÷ 448.8 = CFS
GPM ÷ 226.67 = AF/DAY

AF/DAY ÷ 1.98 = CFS
AF/DAY X 226.67 = GPM
AF/DAY ÷ .0495 = MI

General Water Requirements

Domestic Use

1 home - up to 5 people . . 1 AF/YR	Shop use. . . 1 AF/YR
1 acre lawn & garden 2.50 AF/season	1 acre shelter belt . . . 2.50 AF/season

Stockwater Use

An animal unit (AU) is a measurement of livestock numbers. A cow and calf pair is one animal unit. Weaned animals are counted as one unit each.

Number of AU's X .017 = **AF/Year**

Number of AU's X .017 ÷ 365 x Days = **AF/Number of days**

1 Buffalo	1.5 AU	1 Elk	1 AU	300 Chickens	1 AU
1 Horse	1.5 AU	5 Deer	1 AU	50 Geese	1 AU
1 Dairy Cow	1.5 AU	3 Llamas	1 AU	50 Ducks	1 AU
1 Beef Cow	1 AU	3 Pigs	1 AU	100 Turkeys	1 AU
2 Emu or 2 Ostrich	1 AU	5 Sheep	1 AU	100 Rabbits	1 AU

Other Uses

Crop spraying-----Gallons/acre X acres ÷ 325851 = AF/YR

APPENDIX E (cont.)**Planning Guide for Water Use**

<u>Type of Use</u>	<u>Gallons/Day</u>
Airports: (per passenger)	
3-5	
Apartments: multiple-family (per resident)	
60	
Bathhouses: (per bather)	
10	
Camps:	
Construction, semipermanent	
(per worker)	50
Day with no meals served	
(per camper)	15
Luxury (per camper)	100 - 150
Resorts, day and night with	
limited plumbing (per camper)	50
Tourist with central bath and	
toilet facilities (per person)	35
Cottages: with seasonal occupancy	
(per resident)	50
Courts: tourist with individual	
bath units (per person)	50
Clubs:	
Country (per resident member)	100
Country (per nonresident	
Member present)	25
Dwellings:	
Boardinghouses (per boarder)	50
Additional kitchen	
requirements for	
nonresident boarders	10
Luxury (per person)	100 - 150
Multiple-family apartments	
(per resident)	40
Rooming houses	
(per resident)	60
Single family (per resident)	75
Estates (per resident)	100 - 150
Factories:	
(per person per shift)	15 - 35
Highway Rest Areas: (per person)	5
Hotels:	
Private baths	
(two persons per room)	60
Without private baths	
(two persons per room)	50
Institutions:	
Non-hospital (per person)	75 - 125
Hospitals (per bed)	250 - 400
Churches	
(per person @ 104 days per year)	20
Laundries: self-service	
(gallons per washing per customer)	50

<u>Type of Use</u>	<u>Gallons/Day</u>
Livestock:	
Cattle	15
Dairy Cows (drinking and servicing)	22.5
300 Chickens	15
100 Turkeys	15
6 Goat	15
3 Hogs	15
Horse	22.5
3 Llamas	15
5 Sheep	15
Motels:	
With bath, toilet, & kitchen	
(per bed space)	50
With bed and toilet	
(per bed space)	40
Parks:	
Overnight with flush toilets	
(per camper)	25
Trailers with individual bath	
units, no sewer connection	
(per trailer)	25
Trailers with individual baths	
connected to sewer	
(per person)	50
Picnic facilities:	
With bathhouses, showers, and	
flush toilets (per picnicker)	20
With toilet facilities only	
(per picnicker)	10
Restaurants:	
With toilet facilities (per patron)	7 - 10
Without toilet facilities	
(per patron)	3
With bars and cocktail lounge	2
(<u>additional</u> quantity per patron)	
Schools:	
Boarding (per pupil)	75 - 100
Day with cafeteria, gymnasium	
& showers (per pupil)	25
Day with cafeteria but no	
gymnasium or showers	
(per pupil)	20
Day without cafeteria,	
gymnasium or showers	
(per pupil)	15
Service Stations: (per vehicle)	10
Stores: (per toilet room)	400
Swimming Pools: (per swimmer)	10
Theaters:	
Drive-in (per car space)	5
Movie (per auditorium seat)	5
Workers:	
Construction (per person per shift)	50
School or Offices	
(per person per shift)	15

Montana Water Resources Regional Offices

- Billings:** 1371 Rimtop Drive, Billings MT 59105-1978
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